



Daffodil *International* **University**

Internship Report

On

Studies on Product manufacturing Procedures of

Pran-RFL Group

(PRAN Industrial Park, Palash, Ghorashal, Narshingdi)

Submitted By

Sabbir Ahmed Shimol

ID: 193-34-998

Department of Nutrition and Food Engineering

Submitted to

Department of Nutrition and Food Engineering

As partial fulfillment of Bachelor of Science Degree Curriculum

Supervised by

Nasima Akter Mukta

Assistant professor

Department of Nutrition and Food Engineering

Faculty of Allied health Sciences (FAHS)

Daffodil International University

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LETTER OF TRANSMITTAL

Date: 29/03/2023

Dr. Nizam Uddin

Head In charge & Associate professor

Department of Nutrition & Food Engineering

Daffodil International University

Subject: Submission of Internship report.

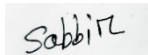
Dear Sir,

It is a great pleasure and honor for me to have the opportunity to submit Internship report as a part of the Nutrition and Food Engineering (NFE) program curriculum.

This report was written considering what I learned throughout my internships at Pran Industrial Park, Palash, Ghorashal, and Narshingdi. The "**Internship Training on Studies on Product manufacturing Procedures of Pran-RFL Group**" paper served as the foundation for this study. I was offered a position at Pran Industrial Park, a PRAN manufacturer and distributor. First and foremost, I learnt about one of the country's leading consumer products manufacturing organizations' organizational culture. Second, the project gave me the opportunity to connect with people in the corporate setting.

Therefore, I'd like to submit this report for your review and feedback. Your helpful comments will motivate me to improve my planning performance in the future.

Sincerely Yours,



Sabbir Ahmed Shimol

Student ID: 193-34-998

Department of Nutrition and Food Engineering

Faculty of Allied Health Sciences

Daffodil International University

DECLARATION

This study, titled "Internship Training on Product Manufacturing and Analyzing Product Activities in PRAN," is being submitted to the Department of Nutrition and Food Engineering, Faculty of Allied Health Sciences, Daffodil International University Dhaka-1207, Bangladesh, as part of the requirements for the degree of Bachelor of Science in Nutrition and Food Engineering. No part of the work included in the report was submitted in support of an application for another degree or qualification from this or any other University or Institute of learning.

NAKTER

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Nasima Akter Mukta

Assistant professor

Department of Nutrition and Food Engineering

Faculty of Allied Health Sciences

Daffodil International University

Sabbir

.....

Name: Sabbir Ahmed Shimol

ID: 193-34-998

Department of Nutrition & Food Engineering

Faculty of Allied Health Sciences

Daffodil International University

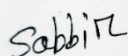
ACKNOWLEDGEMENT

First and foremost, I want to thank ALLAH for providing me the confidence and chance to fulfill my duties as an intern and complete the report.

I am grateful to my supervisors, Nasima Akter Mukta, Assistant Professor, Daffodil International University, and Mr. Rokibul Islam, Quality Control Manager, Pran Dairy Ltd, PRAN-RFL Group, for their encouragement and support throughout my organizational attachment term and for providing me with such learning opportunities. My thanks go to the entire Department of Nutrition and Food Engineering at Daffodil International University for developing an Internship Program for us that allows us to use academic knowledge in real-life situations.

I'd like to thank Nasima Akter Mukta, Assistant Professor in the Department of Nutrition and Food Engineering. Her kind advice and assistance helped me finish the study report.

I'd also want to thank Pran Industrial Park, Palash, Ghorashal, as well as my colleagues, seniors, and coworkers, for their sound advice, recommendations, inspiration, and support. I must remark that this firm has a terrific working environment and collective devotion, which has allowed me to deal with a range of situations.



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Name: Sabbir Ahmed Shimol

ID: 193-34-998

Department of Nutrition & Food Engineering

Faculty of Allied Health Sciences

Daffodil International University

ABSTRACT

This report is based on a one-month internship I completed in Pran Industrial Park (PIP) in Palash, Ghorashal, and Narshingdi, Bangladesh. My hands-on experience and knowledge in the fields of drinking water, beverages (carbonated soft drinks), drinks, hot-fill, confectionery, bakery, frozen items, and research and development were both enhanced by this internship program. One of Bangladesh's most significant food industries is PRAN. Because both hunger and poverty are curses, their objective is to employ productive enterprises to create jobs and help our fellow citizens feel proud of themselves. PRAN, one of Bangladesh's most commercially successful companies, helps the economy of the nation by employing its workforce and lowering the unemployment rate. PRAN stands for and exemplifies life's taste. They are the only food company in Bangladesh to accomplish this, sending their unique products in ten different categories—including confectionary, snacks, drinks, dairy products, mineral water, frozen dinners, baked goods, beverages, and biscuits—to 145 different countries every day. One of the primary foods producing businesses in the PRAN-RFL group is Pran Industrial Park (PIP). In PIP's facilities, products such mango juice, soft drinks, bread, chocolate, candies, and sweets are produced. I received an internship at Pran Industrial Park, which gave me the chance to observe their processes and get first-hand experience. They showed me respect by giving me all the tools I required to concentrate on my studies during my internship.

SIGNIFICANCE OF THE STUDY

Manufacturers of food goods are always developing new products. One of the most favorable effects of PRAN is that no other firm in Bangladesh produces more variety of food goods (more than 200 products) than PRAN, and it distinguishes itself from others by producing and innovating new products. Innovating new flavored carbonated soft drinks and hot-fill drinks distinguishes them from competitors. PRAN goods are in high demand not just in Bangladesh, but across the world. There is a lot more study to be done on beverages, hot-fill, and carbonated soft drinks products and processes. It is a highly unique career route for the food engineer. The report included information such as an overview of production management and so on. However, the study is related to the Production management as I was provided an opportunity to whole production management area including QA, R&D, Distribution, Storage etc.

List of Abbreviations:

- MGF = Multi-Graded Filter
- SF = Softener Filter
- ACF = Activated Carbon Filter
- UGT = Under Ground Tank
- TDS = Total Dissolved Solid
- EBT = Eriochrom Black T
- EDTA = Ethylene Di-Amine Tetra Acetic Acid
- PRP = Prerequisite Program
- GSP = Good Storage Practice
- GMP = Good Manufacturing Practice
- CCP = Critical Control Point
- HACCP = Hazard Analysis Critical Control Point
- FDA = Food & Drug Administration
- CIP = Cleaning in Place
- COP = Cleaning Outer Place
- SOP = Standard Operating Procedure
- BSTI = Bangladesh Standards & Testing Institute
- ISO = International Organization for Standardization
- PP = Polypropylene
- LDPE = Low Density Polyethylene

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Chapter 1

Introduction

PRAN (Programmed for Rural Advancement Nationality) was established in 1981 by retired Major General Amjad Khan Chowdhury and has since evolved to become one of Bangladesh's leading food and beverage companies. PRAN cleared the path for agriculture in Bangladesh by guaranteeing farmers higher prices. It has been able to employ over 125,000 individuals for over 40 years. The group's total sales have crossed 21,000 crores so far. PRAN Foods Ltd. manufactures over 200 products in the categories of biscuit and bread, drinks, confectionery, frozen food, culinary, snacks, dairy, and so on.

Some products from PRAN that are manufactured in Pran Industrial Park (PIP) at Palash, Ghorashal, Narshingdi are in the category of production line of Dairy, CBL, Candy, Bubble gum, BBL, and Hot fill drinks are boxed below:

Unit	Products
Dairy	PRAN Dhaka Cheese, PRAN UHT Milk, PRAN Milk, Milkman Slim Milk, PRAN Premium Ghee, PRAN Milk Full Cream Milk Powder, Super Milk Skimmed Milk Powder, PRAN Flavored Milk, PRAN Nawabi Lacchi, PRAN Lacchi, PRAN Matha, Mughal Lacchi,
BBL	Bisk Club Biscuits, PRAN Potata, Fit Crackers, All Time Honeycomb, All Time Bun, PRAN Special Toast, PRAN Mama Wafer
Hot fill drinks	PRAN Litchi, PRAN Frooto
Chocolate bar line	PRAN Chocolor Milk Chocolate Bar, Treat, Sixers, Wonder Kids, PRAN Peanut Bar, PRAN Mango Bar
Bubble Gum	Fruitfill Chewing Gum, Xcel, PRAN Bubble Gum
Candy	PRAN Coffee Candy, PRAN Lollipop

Chapter 2

WTP

Water Treatment Plant

The water treatment plant at PIP (Pran Industrial Park) is made up of many processes. Water used in the process comes from a water treatment plant (WTP), and every stage of the WTP process is monitored by a quality control officer before being kept in a reserve tank (15000 liter). Water must first be gathered from lakes, rivers, and reservoirs before it can be treated.



Despite the use of biological processes, the bulk of water is delivered from its source to the treatment facility via a sophisticated network of compressors and pipelines. The water treatment plant's process flowchart is presented below:

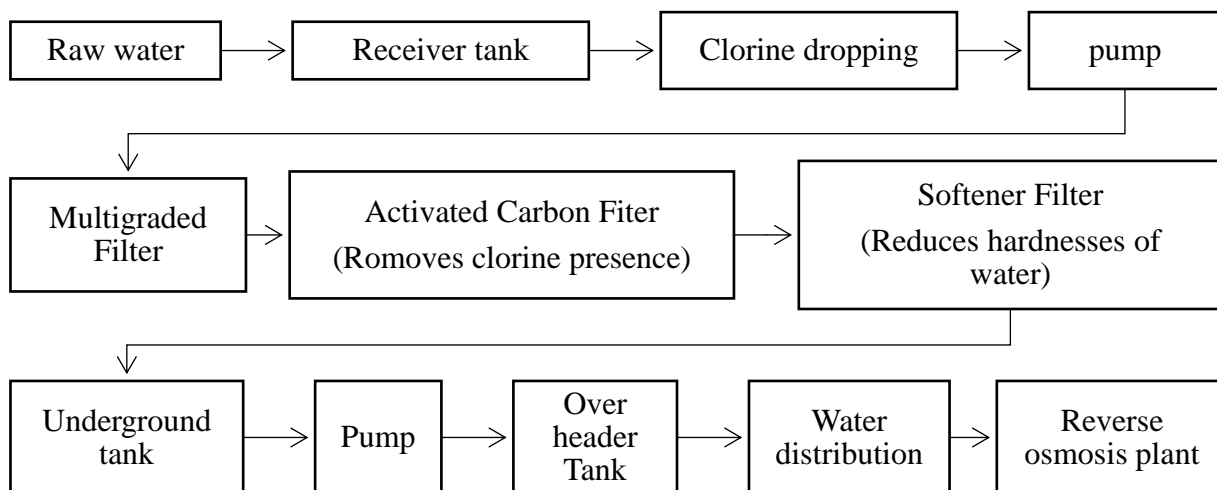


Figure: Process flow chart of Water Treatment Plant

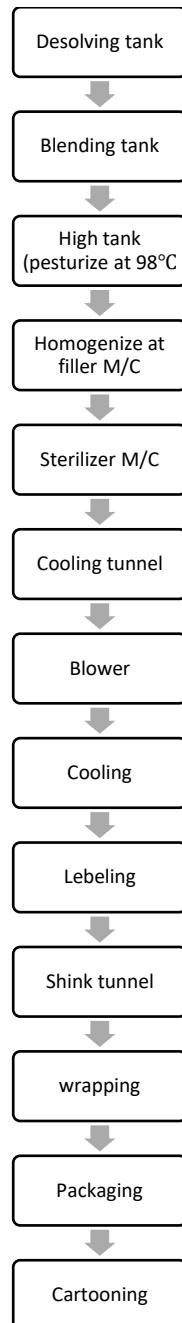
Chapter 2

Hot-Fill & Activities

Hot filling is a process of sterilizing a product as well as the inside of bottles or containers, as well as the cap or closure, to assure product safety and enhance shelf life.

PRAN Lacchi

Process flowchart:



Chapter 3

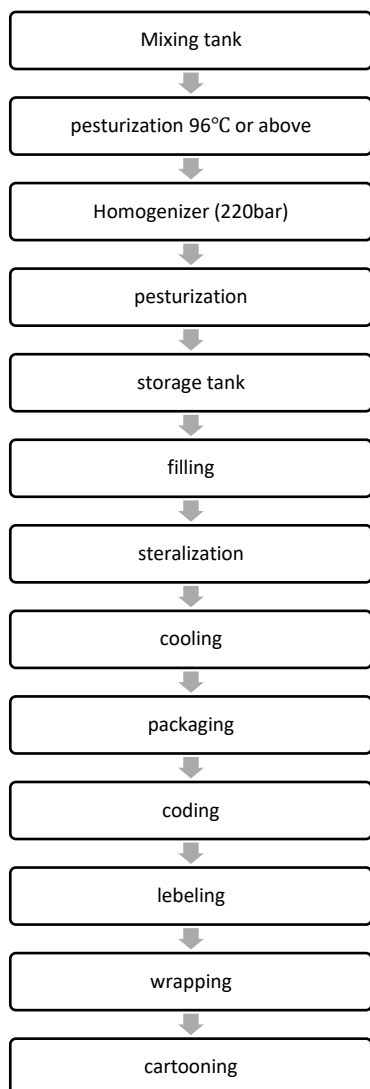
Dairy

Process of Raw milk receiving:

First, raw milk is collected and sent to a milk collection center. It is then delivered by vehicle from there to the mother center and finally to the factory for storage at 4 ° C. Then, the milk was then examined, followed by QC parameters. The milk is subsequently filtered and sent to the raw silo milk tank. And the process flow continues according to the requirement product variety.

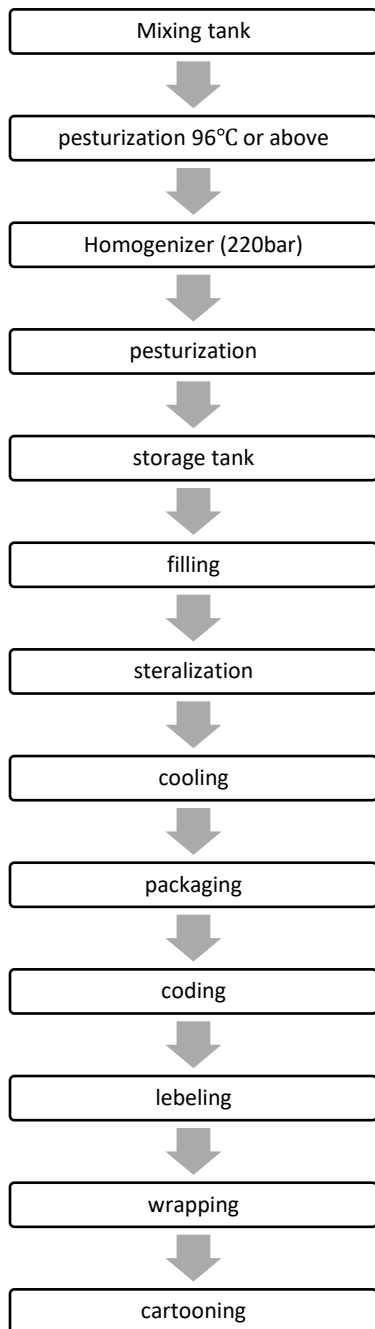
PRAN Nawabi Lacchi

Nawabi Lacchi a great drink to refresh your mind and body.



Mughal Lacchi

Mughal Lacchi is a wonderful beverage to revitalize your body and mind.



Chapter 4

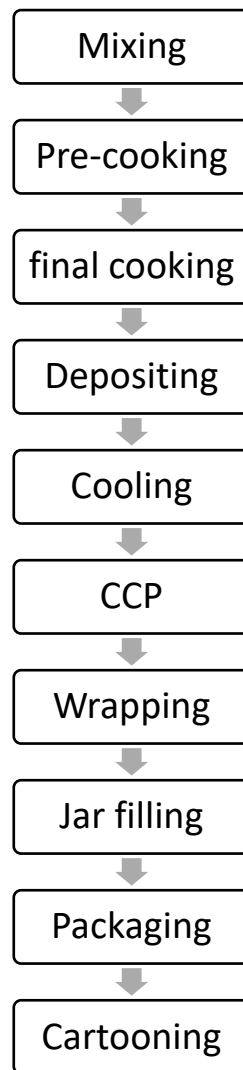
Candy Line & Activities

Coffee Candy



Process flowchart:

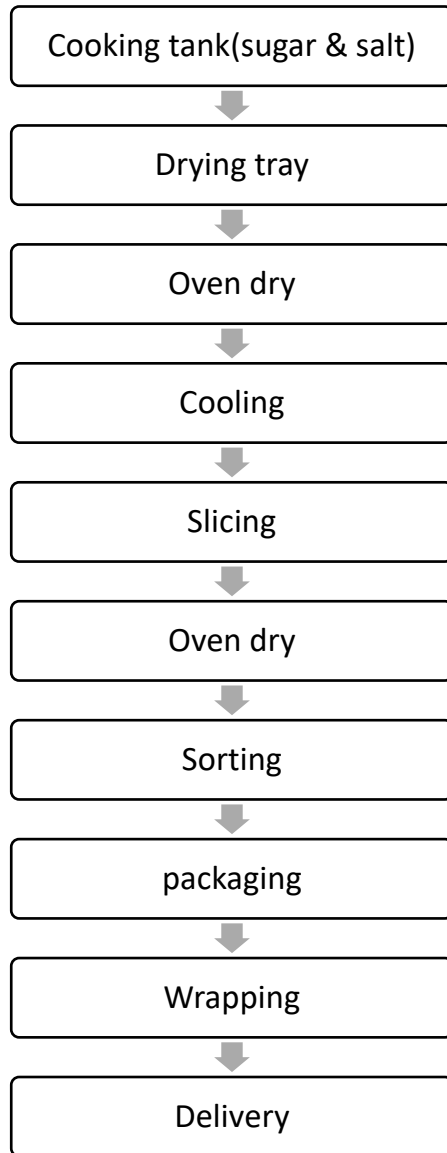
Mixing: Water, sugar, glucose, color, flavor, emulsifier, salt, coffee powder, HPKO



PRAN Mango Bar

The real pulp of Mango gives you traditional taste of dried mango (Aamshotto) and gives you happiness of taste.

Process flowchart:



Chapter 5

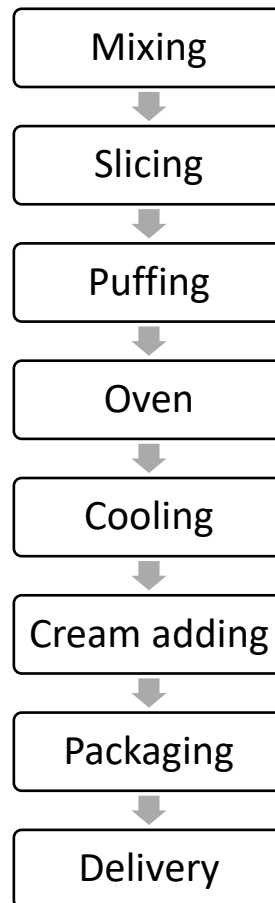
Biscuit & Bakery

All Time Bun

PRAN All Time Biscuits & Bakery products are processed from fresh locally sourced ingredients, processed in plants ensuring international quality.



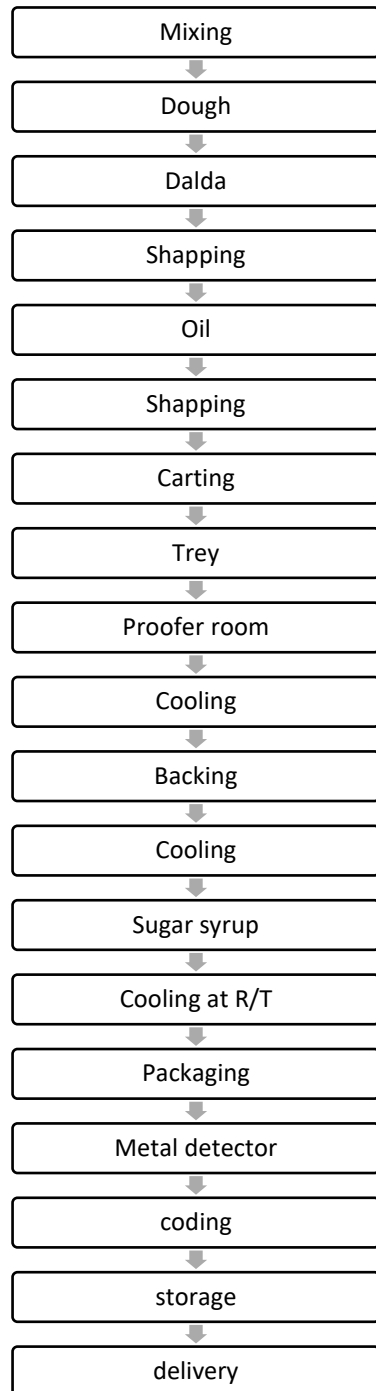
Process flowchart:



All Time Honeycomb

Mouthwatering honey covered bread to fill up your instant hunger.

Process flowchart:

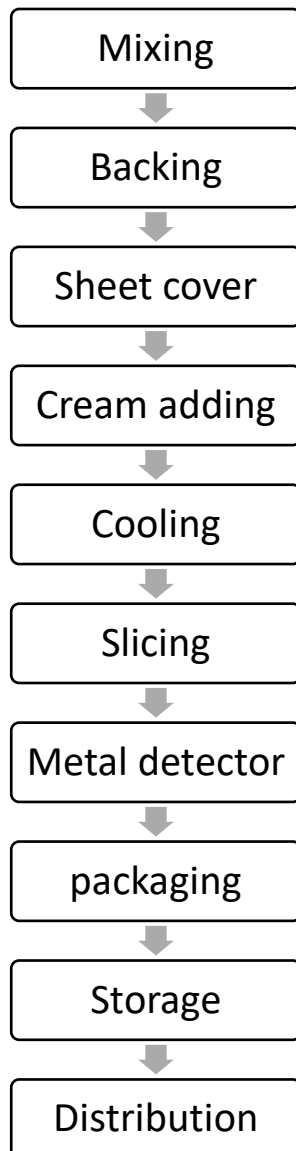


PRAN Mama Wafer

Mama wafer is a leading brand at wafer category in Bangladesh. It starts the journey from 2008 and from then it is popular wafer brand among children. Milk flavored cream wafer biscuit which is fresh and crispy. It offers a variety of wholesome & tantalizing wafer to customer at reasonable price.

Process flowchart

Mixing: Flour, Soda, SHBS, salt, water, oil



Chapter 6

Quality Control Parameter and Tests

Tests	Parameters
Water Treatment Plant	
Total Dissolved Solid Test: TDS meter (CON700)	50-150
Hardness Test by Ammonium Buffer, EBT & EDTA solution	100 mg/L
Chlorine Test done by mixing Orotidine	02-2.0 mg/L
Iron test is done by Spectrophotometer	0.3 mg/L
Hot-Fill Line (PRAN Frooto)	
Brix Test	12.8
Acidity Test	0.23
Filling Temperature	70-85 °C
Homogenization	190-220 rpm
Pasteurization	98+/-2 °C
Water Pressure for Bottle Washing	2.5 PSI
Brix Test	12.8
Physical Test on Raw milk receiving	
Density test	1.025 to 1.035 g/cm ³
Clot on Boiling test	
PH Test	6.7 to 6.9
BR (butyrene fractometer reading of milk fat) test	40-45
Chemical Test on milk product process	
Alcohol test	0.16% to 0.18%
Soda test	Varies by product
Formation test	Varies by product
Acidity test	6.6-6.8%
Starch test	12.0%
Sugar test	Varies by product
Salt test	Varies by product
Glucose test	80-590mg/dL
Fat test	3.5%
Candy Line & Activities	
Moisture analyzing	Varies by product
Hardness Test	Varies by product
Sealing test	Varies by product
High performance liquid chromatography	Varies by product
Biscuit and Bakery	
Moisture	Varies by product
Fat	Varies by product
Insoluble ash	Varies by product
Acidic soluble ash	Varies by product

Chapter 7:

Conclusion

This one-month internship program in the Pran Industrial Park encompassed both the quality and production sections. PRAN is one of Bangladesh's most important food industry. This internship program concentrated on the manufacturing lines of water, dairy, hot-fill, beverage, biscuit & pastry, and confectionery. Every manufacturing line has its own production area, and each production line has its own CIP (cleaning in place) and SOP (standard operating procedure). I saw every step of the process, from obtaining raw materials to manufacturing the items (such as raw materials storage, shortening, raw materials processing, blending, aging, processing, storage, waste management, remix, QA, and so on). Quality controllers employ a variety of specialized quality measures to verify production quality before, during, and after the process in the specific production line. pH, hardness, iron, chlorine, and TDS tests are done to ensure the quality of drinking water. The sole difference between hot-fill and beverage quality tests is a difference in standard value in the same test for different commodities. Additional procedures carried out in the industry to assure product quality throughout time include raw material (RM), packaging material (PM), and finished goods in shops and warehouses (FG). Depending on the product, materials used for completed products packaging include low density polyethylene, polypropylene, high density polyethylene, and aluminum foil.

References

foods, P. (n.d.). *Brands*. Retrieved from Pranfood: <https://www.pranfoods.net>